



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

NAA

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/848,082	03/21/96	DENNISON	E

TERRY M. GERNSTEIN
1015 SALT MEADOW LANE
MCLEAN VA 22101

LM02/0625

EXAMINER
MAUNG, N

ART UNIT	PAPER NUMBER
2744	

DATE MAILED: 06/25/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/848,082

Applicant(s)
Dennison et al.

Examiner
Nay Maung

Group Art Unit
2744



- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-65 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-65 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2744

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Applicant's specification, first page, refers to patent application 07/813,495 in a series of related applications.

This reference and hence the series is incorrect

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 32 and 33 recites the limitation "The improvement defined in" in line 1 of each claim. There is insufficient antecedent basis for this limitation in the claims given that no improvements were mentioned in either claims 7 or 9 from which claims 32 and 33 depend.

Double Patenting

4. Claims 1-8, 14-22, 24,25, 27-29, 31, 32, 36, 37, 39-43, 45, 46, 48, 50-52, 54, 56, 58-60, 62, 63, 65, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5,546,445. Although the

Art Unit: 2744

conflicting claims are not identical, they are not patentably distinct from each other because what has been added to the claims of the present application is what is known or expected in the art.

Applicants admit as prior art..."Wireless over the air communications system that includes one or more cell sites, an MTSO, locating means in the cellular communications system for determining the exact geographic location of a mobile unit and for providing a position signal of said exact geographic location, means in the MTSO for defining billing information for said mobile unit based on the exact geographic location of the mobile unit, said data means including tables containing billing information and positional data and means for comparing the exact geographic location of said mobile unit to the tables and assessing charges to said mobile unit based on said exact geographic location and for generating a communication process record for billing purposes".

Also admitted as prior art..."In a wireless over-the-air communications system that includes one or more intra-system cell sites, a system boundary and an MTSO, the wireless over-the-air communications system being located adjacent to at least one neighboring wireless over-the-air wireless communication system having its own cell sites which are inter-system cell sites with respect to the wireless over-the-air communications system, the wireless over-the-air communication processes handled by the intra-system cell sites, the wireless over-the-air communications system and the neighboring wireless over-the-air carrier being subject to intersystem interference, locating means in a mobile unit of a wireless over-the-air communications system for determining the exact geographic location of the mobile unit and for providing a position signal of said exact geographic location; means in the MTSO for recognizing the position signal transmitted by the mobile unit and using that position signal to establish the exact geographic location of the mobile unit vis a vis cell sites in the wireless over-the-air communications system; and data storage and comparison means in the MTSO storing intra-system cell site location data giving a geographic location for each of the intra-system cell sites in the wireless over-the-air communications system and effecting a comparison between said position signal and the cell site location data of the intra-system cell sites and selecting a chosen cell site for use by said mobile unit based on said comparison and establishing communication between said mobile unit and said chosen cell site based on the exact geographic location of the mobile unit if said chosen cell site is an intra-system cell site for reducing interference between said wireless over-the-air communications system and a neighboring wireless over-the-air carrier"

In fact, this admission of prior art is seen reflected in the invention covered by claims 1-20 of US Patent 5,546,445; specifically claims 1 and 17. The difference between the invention covered in US Patent 5,546,445 and claims 1-4, 16-18, 21, 22, 24, 25, 27-29, 40, deal with billing

Art Unit: 2744

once communication originates, billing/taxing as the mobile unit moves, billing to multiple providers. It would have been obvious, if not inherent, to one of ordinary skill in the art, at the time of invention, to begin billing upon call origination, updating billing as the mobile unit roams, and providing billing to multiple providers. The motivation would have been to provide for accurate billing statements, i.e., billing as soon as system resources are in use, or at the start of communications, and continuing until the conclusion of communications, regardless of where the mobile unit roamed. Thus an accurate bill would be generated without having provided "free" air-time for the use of system resources. While claim 29 introduces "shared cells", the concept of geographic based call processing and billing still apply.

With respect to claims 5 and 6, it would have been obvious to one of ordinary skill in the art, at the time of invention, if not inherent, to accept or deny communications if the mobile unit were in certain cells/zones/areas. If a mobile unit's signal is too weak for a given area, then system resources would be wasted on those mobile units.

With respect to claims 7 and 8, it is well known in the art for cell sites to have assigned different frequency bands. Therefore, in making call management decisions based upon exact geographic location of a mobile unit (as recited in claim 9 of US Patent 5,546,445), it would have been obvious to one of ordinary skill in the art, at the time of invention, to have not only assigned mobile units to service by certain cell sites, but to have also assigned frequencies based upon cell site selections.

Art Unit: 2744

With respect to claims 14, 15, 20, 41, hand-offs between cells or systems and frequencies are standard practice for mobile communications.

Claims 19, 31, 32, 36, 37, 39, read on the limitations of claim 2 of US Patent 5,546,445.

With respect to claims 42, 43, 45, 46, 48, 50-52, satellite cellular systems are well known in the art, and it would have been obvious to one of ordinary skill in the art, at the time of invention, that hand-over from one system to another, may well encompass hand-off to a wireless communications satellite.

With respect to claims 54-56, 58-60, 62, 63, 65, it would have been obvious to one of ordinary skill in the art, at the time of invention, to have updated on regular intervals, if not continuously, the location of mobile subscribers, given that subscribers do have the ability to roam.

5. Claims 9-13, 23, 26, 30, 33, 34, 35, 38, 44, 47, 49, 53, 55, 57, 61, 64, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, and 9, or 11-15 of U.S. Patent No. 5,235,633. Although the conflicting claims are not identical, they are not patentably distinct from each other because while claims 1, 3, 9 or 11-15 do not specifically refer to service boundaries, redirecting communication to other cellular systems, or changing frequencies, these claims do refer to cell site locations and hand-offs. It would have been obvious to one of ordinary skill in the art, at the time of invention, that cell site locations would include service boundaries (i.e., latitude and longitude coordinates) such that hand-offs

Art Unit: 2744

between systems could occur. Hand-offs between cells or systems, and frequencies are standard practice for mobile communications. Moreover, it is well known in the art for cell sites to have assigned to them different frequency bands, i.e., for frequency reuse. Therefore, in making call management decisions based upon exact geographic location of a mobile unit (as recited in claim 9 of US Patent 5,235,633), it would have been obvious to one of ordinary skill in the art, at the time of invention, to have not only assigned mobile units to service by certain cell sites, but to have also assigned frequencies based upon cell site selections.

Claim 26 deals with an override criteria. It would have been obvious to one of ordinary skill in the art, at the time of invention, to have provided such an override criteria in a mobile communications system in which cell sites are selected based upon the geographic location of the mobile, given that land topography may simply not provide the optimal, if any, communication opportunity to the subscriber. In other words, subscribers may not remain with service providers that provide a system which forces subscribers to communications handled by certain cell sites, simply based upon their location, when the given topography of the land or surrounding environment is such that communication is impossible with that selected cell site.

Claim 30 requires "maintaining signal strength in all cell sites at a maximum permissible level for the area immediately adjacent to each cell site", in addition to the geographic cell site location process. The breadth of this claim language is read on the system ensuring that all cell sites operate up to standards, i.e., cell sites are planned such that the maximum signal level transmitted by the base stations do not interfere with other base stations in other cell sites.

Art Unit: 2744

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to insure maximum permissible signal strength in all cell sites, such that mobile subscribers are insured of quality communications.

Claims 33, 38, are read on the limitations of claim 2 of US Patent 5,235,633.

With respect to claims 44, 47, 49, 53, satellite cellular systems are well known in the art, and it would have been obvious to one of ordinary skill in the art, at the time of invention, that hand-over from one system to another, may well encompass hand-off to a wireless communications satellite.

With respect to claims 55, 57, 61, 64, it would have been obvious to one of ordinary skill in the art, at the time of invention, to have updated on regular intervals, if not continuously, the location of mobile subscribers, given that subscribers do have the ability to roam.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nay Maung whose telephone number is (703) 308-7745. The examiner can normally be reached on Monday - Thursday from 7:30 to 4:00 and alternate Fridays.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-9508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Serial Number: 08/848,082

Page 8

Art Unit: 2744

Nay Maung

June 22, 1998



DWAYNE D. BOST
SUPERVISORY PATENT EXAMINER
GROUP 2700